REMARKS

Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

Claims 1-24 are pending in the present application. Claims 21-24 are newly added. Claims 1, 19 and 20 have been amended herein merely to correct minor informalities and not to narrow the scope of the claims.

Claim Rejections – 35 U.S.C. § 102

Claims 1-6, 9, 16-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bader (U.S. Patent No. 6,256,987) in view of Stamm et al. (U.S. Patent No. 6,327,284). Applicants respectfully traverse this rejection for at least the following reasons.

Claim 1 recites, *inter-alia*, "said radiation sensor comprising: a radiation-sensitive material that converts incident primary radiation into secondary radiation; a radiation detector adapted to detect said secondary radiation; and a filter material on an incident side of the radiation sensitive material and adapted to inhibit secondary radiation from traveling away from the radiation detector."

Claim 17 recites, *inter-alia*, "converting incident primary radiation into secondary radiation; detecting said secondary radiation; and filtering said secondary radiation such that secondary radiation traveling in a direction away from the radiation detector is attenuated."

Claim 19 recites, *inter-alia*, "said radiation sensor comprising: a radiation-sensitive material that converts incident primary radiation into secondary radiation; a radiation detector adapted to detect said secondary radiation; and a filter material on an incident side of the radiation sensitive material and adapted to inhibit secondary radiation from being detected at a position spaced from a general region of initial incidence of the primary radiation."

Claim 20 recites, *inter-alia*, "said radiation sensor comprising: a radiation-sensitive material that converts incident primary radiation into secondary radiation; a radiation detector adapted to detect said secondary radiation; and a filter material on an incident side of the radiation sensitive material that is transmissive for the primary radiation and reflective for the secondary radiation."

Bader discloses a light intensity measurement system which includes a compensation detector 8 (see the unique Figure in Bader and related description at col. 2 in Bader). The compensation detector 8 has a photodetector 81. The photodetector 81 is preceded by a filter packet "83." Applicants note that there is no indication in the text of Bader which component

the numeral reference 83 refers to in the Figure. Thus, Applicants have interpreted that the reference numeral "83" refers to the filter packet noted in the text of Bader. The filter packet "83" which is a combination of blue-transmitting glass and ultraviolet transmitting glass filters absorbs scattered radiation. In addition, the photodetector 81 in Bader is optionally preceded by scattering disk 82 which, according to Bader, serves to make the radial intensity distribution of the reflected light independent of the reticle masking diaphragm.

Therefore, contrary to the Office Action contention, the components 82 and 83 in the light measurement system of Bader are not radiation sensitive materials that convert incident primary radiation into secondary radiation. Furthermore, as conceded in the Office Action, Bader does not disclose, teach or suggest a filter material on an incident side of the radiation sensitive material and adapted to inhibit secondary radiation from traveling away from the radiation detector. In addition, in Bader the compensation detector 8 is designed such that non reflecting surfaces are in a geometry which prevents reflection back to mirror 5 and back to energy sensor 6. Thus, in Bader reflected light is prevented from reaching the detector 6. Whereas, claim 1 requires that the filter material inhibits secondary radiation from traveling away from the radiation detector.

Similarly, Bader does not disclose, teach or suggest "filtering the secondary radiation such that secondary radiation traveling in a direction away from the radiation detector is attenuated," as recited in claim 17.

Similarly, Bader does not disclose, teach or suggest "a radiation-sensitive material that converts incident primary radiation into secondary radiation," as recited in claim 19.

Furthermore, Bader does not disclose, teach or suggest "a filter material on an incident side of the radiation sensitive material and adapted to inhibit secondary radiation from being detected at a position spaced from a general region of initial incidence of the primary radiation," as recited in claim 19.

Similarly, Bader does not disclose, teach or suggest "a radiation-sensitive material that converts incident primary radiation into secondary radiation," as recited in claim 20.

Furthermore, Bader does not disclose, teach or suggest "a filter material on an incident side of the radiation sensitive material that is transmissive for the primary radiation and reflective for the secondary radiation," as recited in claim 20.

Stamm et al. merely teaches a detection system 100 comprising a photodetector 102 with a coating layer 104 formed on the photodetector 102 (see Figure 1A and related description at col. 4 in Stamm et al.). The coating layer 104 absorbs photons of incident light

106 and re-emits photons of longer wavelength light 108 which travels in the same direction as the incident photons 106 (see col. 5, lines 7-15 in Stamm et al.). The coating layer 104 of Stamm et al. does not inhibit light from traveling away from detector/sensor 102. Therefore, the coating layer 104 of Stamm et al. is completely different from the filter material of claim 1 which is adapted to inhibit secondary radiation from traveling away from the radiation detector. Furthermore, Stamm et al. does not disclose, teach or suggest "filtering the secondary radiation such that secondary radiation traveling in a direction away from the radiation detector is attenuated," as recited in claim 17. Stamm et al. does not disclose, teach or suggest "a filter material on an incident side of the radiation sensitive material and adapted to inhibit secondary radiation from being detected at a position spaced from a general region of initial incidence of the primary radiation," as recited in claim 19. Stamm et al. does not disclose, teach or suggest "a filter material on an incident side of the radiation sensitive material that is transmissive for the primary radiation and reflective for the secondary radiation," as recited in claim 20.

Consequently, Stamm et al. fails to cure the deficiencies noted above in Bader. Thus, neither Bader nor Stamm et al., alone or in combination, disclose, teach or suggest the subject matter recited in independent claims 1, 17, 19 and 20.

Therefore, Applicants respectfully submit that claims 1, 17, 19 and 20, and claims 2-6, 9, 16 and 18 which depend directly or indirectly from either claim 1 or claim 17, are patentable. Thus, Applicants respectfully request that the rejection of claims 1-6, 9 and 16-20 under § 103(a) be withdrawn.

Claims 1-20 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicants' Admitted Prior Art (AAPA) of Figure 2 in view of Kuhlmann (U.S. Patent No. 6,713,795). Applicants respectfully traverse this rejection for at least the following reasons.

The Office Action concedes that AAPA of Figure 2 does not disclose "a filter material formed on an incident side of the radiation sensitive material."

The Office Action contends, however, that Kuhlmann in Figure 2 teaches a photodetector having transmission filter 22 formed onto the incident side of the radiation sensitive material in order to inhibit the radiation from traveling away from the radiation sensor and thus it would have been obvious to one of ordinary skill in the art to employ the transmission filter of Kuhlmann into the photodetector of AAPA of Figure 2. Applicants respectfully disagree.

Kuhlmann merely discloses a photodetector including a transmission filter 22. A radiation sensitive material (scintillator layer) 25 is applied onto a side of the transmission filter 22. The transmission filter 22 in Kuhlmann is used to perform a first wavelength selection. Then, the UV radiation is absorbed and converted into light radiation of longer wavelength, for example, in the green or red spectral range (visible) (see, paragraph [0031] in Kuhlmann) which is then detected by photodiode 24 (radiation detector).

The transmission filter 22 in Kuhlmann does not inhibit secondary radiation (visible) from traveling away from the radiation detector 24. Similarly, the transmission filter 22 in Kuhlmann does not inhibit the secondary radiation (visible) from being detected at a position spaced from a general region of initial incidence of the primary radiation (UV radiation). Similarly, the transmission filter 22 in Kuhlmann is not transmissive for the primary radiation (UV radiation) and reflective for the secondary radiation (visible). Moreover, the transmission filter 22 of Kuhlmann does not filter the secondary radiation such that secondary radiation traveling in a direction away from the radiation detector is attenuated.

Consequently, Kuhlmann does not disclose, teach or suggest, *inter-alia*, "a filter material on an incident side of the radiation sensitive material and adapted to inhibit secondary radiation from traveling away from the radiation detector," as recited in claim 1. Kuhlmann does not disclose, teach or suggest, *inter-alia*, "filtering said secondary radiation such that secondary radiation traveling in a direction away from the radiation detector is attenuated," as recited in claim 17. Kuhlmann does not disclose, teach or suggest, *inter-alia*, "a filter material on an incident side of the radiation sensitive material and adapted to inhibit secondary radiation from being detected at a position spaced from a general region of initial incidence of the primary radiation," as recited in claim 19. Kuhlmann does not disclose, teach or suggest, *inter-alia*, "a filter material on an incident side of the radiation sensitive material that is transmissive for the primary radiation and reflective for the secondary radiation," as recited in claim 20.

Consequently, neither the AAPA of Figure 2 nor Kuhlmann, alone or in combination, disclose, teach or suggest the subject matter recited in claims 1, 17, 19 and 20.

Therefore, Applicants respectfully submit that claims 1, 17, 19 and 20, and claims 2-16 and 18 which depend directly or indirectly from either claim 1 or claim 17, are patentable.

Thus, Applicants respectfully request that the rejection of claims 1-20 under § 103(a) be withdrawn.

Claims 21-24 have been added. Support for claims 21-24 can be found throughout the initial disclosure.

Claims 21-24 depend from, respectively, claims 1, 17, 19 and 20. Therefore, for at least the reasons presented above with respect to claims 1, 17, 19 and 20, Applicants respectfully submit that claims 21-24 are patentable.

CONCLUSION

Applicants have addressed all the Examiner's rejections and objections and respectfully submit that the application is in condition for allowance. A notice to that effect is earnestly solicited.

If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Respectfully submitted,

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